

# PATENT SPECIFICATION



Application Date : March 26, 1925. No. 8091 / 25.

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" " May 2, 1925. No. 11,408/25.

One Complete Left : Dec. 28, 1925.

Complete Accepted : March 25, 1926.

## PROVISIONAL SPECIFICATION.

No. 8091, A.D. 1925.

### Improvements in Imitation Fires.

We, JOHN CHARLES WHITE, of 49, Bridge Street, Deansgate, Manchester, in the County of Lancaster, a British subject, and HUBERT ASHLEY DICKINSON, of 187, Cross Street, Sale, in the County of Chester, a British subject, do hereby declare the nature of this invention to be as follows:—

The present invention relates to improvements in imitation fires, usually known as "electric fires", "gas fires" and the like.

Various types of electric heat radiating devices are in general use in which radiating elements are provided for the radiation of heat energy in combination with a device to produce the semblance of a flickering coal fire.

An object of the present invention is to provide an arrangement in which the flickering will be as irregular as possible to avoid any semblance of mechanical control to the eye of an observer.

One or more separate revolving vanes or the like elements are provided adapted to revolve automatically by reason of the rising hot air stream from either the electric or the like heat radiating elements or from a separate lamp or lamps or other heating device and these may be mounted directly above the electric lamp bulb, where this is used, as has been usual in this type of device. The revolving vane is connected to a light reflector or reflectors, which may be polished surfaces or pieces of glass of different colours, and means are provided whereby the reflector will rotate and increase in speed until a predetermined

speed has been reached when the rotation will become suddenly unstable and be stopped or slowed down and restart.

In one arrangement for effecting this, the rotating part connected to the revolving vane is provided with a magnet or armature co-operating with a stationary armature or magnet, as the case may be, so that as the speed increases, these elements are brought nearer to one another, until they touch and to upset the stability of the lightly pivoted vanes, or until the rotating element swings out to abut with a fixed stop with the same effect or again comes into a magnetic field which will have the effect of disturbing its stability.

In a further arrangement a pair of vanes may be mounted inclined to rotate in opposite directions and provided with reflecting surfaces upon them to rotate preferably about the same axis. It will be seen that for instance if these reflecting surfaces are of irregular number, say for instance nine reflecting surfaces on one revolving element, and eleven on another, a flickering arrangement will be provided which will repeat every ninety-nine revolutions, or again one or more reflecting parts can be provided on each rotating vane, and these may be arranged to rotate at different speeds in opposite directions, so that by way of example, if one revolving vane has two reflectors on it, whilst the other has three reflectors on it, and one revolving vane rotates at ten revolutions, whilst the other is rotating at eleven revolutions, a repeat in the flicker will only take place in the repeat every six hundred

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and sixty revolutions. It will be obvious that this arrangement can be further developed to provide varying periods of flicker.

- 5 As a light reflecting means, one or more polished or the like light reflecting vanes may be mounted with a casing

such as a cylinder capable of light reflecting or refracting material.

Dated this 25th day of March, 1925. 10

W. P. THOMPSON & Co.,  
12, Church Street, Liverpool,  
Chartered & Registered Patent Agents.

## PROVISIONAL SPECIFICATION.

No. 11,403, A.D. 1925.

### Improvements in Imitation Fires.

- 15 We, JOHN CHARLES WHITE, of 49, Bridge Street, Deansgate, Manchester, in the County of Lancaster, a British subject, and HUBERT ASHLEY DICKINSON, of 187, Cross Street, Sale, in the County of Chester, a British subject, do hereby  
20 declare the nature of this invention to be as follows:—

- The present invention relates to improvements in imitation fires, usually known as "electric fires", "gas fires"  
25 and the like.

- Various types of electric heat radiating devices are in general use in which radiating elements are provided for the radiation of heat energy in combination  
30 with a device to produce the semblance of a flickering coal fire.

- An object of the present invention is to provide an arrangement in which the flickering will be as irregular as possible  
35 to avoid any semblance of mechanical control to the eye of an observer.

- According to the present invention two or more revolving vane elements are mounted within a common enshrouding  
40 casing having air inlet means at its base, and/or alternatively in its sides, and either open at the top or having openings at the top for the escape of hot air.

- These inlet openings are preferably  
45 adjustable so as to control the flow of air, and consequently the speed of rotation of the revolving vanes.

- It is preferred that a single lamp, such as a tubular electric lamp, be mounted  
50 in the base of the enshrouding casing

common to the rotating vane elements. A slot may be provided in the casing opposite the said lamp, whereby direct illumination may proceed horizontally  
55 outwards through an imitation coal fire, formed of stained or coloured glass or the like material, imitating the effect of glowing coal.

The interior of the casing common to the lamps is preferably polished to act as  
60 a reflector, and light may further be reflected from the polished revolving vanes upon an inclined reflector which may be integral with part of the enclosing casing. 65

In a preferred form of construction two or more rotating vane elements are provided, each element comprising a pair of revolving vanes rotating in different directions, and if desired, arranged to  
70 rotate at different speeds. These vanes may have magnet elements mounted on them so that when the magnet elements of one rotating vane device comes opposite the vane of a lower rotating vane  
75 element, the two will dip towards one another and up-set the stability of rotation of these to cause an irregularity in the flickering due to the reflection of light on the vane surfaces. 80

Other means, such as adjustable outlet dampers, may be provided for controlling the air stream through the casing.

Dated this 1st day of May, 1925.

W. P. THOMPSON & Co., 85  
12, Church Street, Liverpool,  
Chartered & Registered Patent Agents.

## COMPLETE SPECIFICATION.

### Improvements in Imitation Fires.

- 20 We, JOHN CHARLES WHITE, of 49, Bridge Street, Deansgate, Manchester, in the County of Lancaster, a British subject, and HUBERT ASHLEY DICKINSON,

of 187, Cross Street, Sale, in the County of Chester, a British subject, do hereby declare the nature of this invention and in what manner the same is to be per- 95

formed, to be particularly described and ascertained in and by the following statement:—

5 The present invention relates to improvements in imitation "fires", usually known as "electric fires", "gas fires" and the like.

10 Various types of electric heat radiating devices are in general use in which radiating elements are provided for the radiation of heat energy in combination with a device to produce the semblance of a flickering coal fire.

15 An object of the present invention is to provide an arrangement in which the flickering will be as irregular as possible to avoid any semblance of mechanical control to the eye of an observer.

20 According to this invention one or more rotating vane elements normally tending to rotate with constant velocity have means to periodically upset their stability to provide a continuously varying flicker by an irregular obturation or reflection from a source of light.

25 The invention is more particularly described with reference to the accompanying diagrammatic drawings in which:—

30 Figure 1 is a side sectional elevation of one form of construction of "fire".

Figure 2 is a corresponding front view.

35 The "electric fire" comprises a casing 1 adapted to support in any suitable manner electric radiator elements 2, 3, and enclosing a lamp 4 forming a source of light and heat, the light of which is reflected upwards by means of a reflector 5 upon revolving vanes 6, 7, carried on separate brackets 8, 9 on the casing. A spring finger such as 10 may be provided to prevent accidental displacement of the revolving vanes from their pin sockets.

40 One blade amongst the number of blades on each vane element has attached to it a small bar magnet 11 which in its rotation comes opposite a stationary bar magnet 12 supported by the bracket 8. The effect of this will be that when the magnets 11, 12 are in proximity with one another they are mutually attracted or repulsed, as the case may be, and the vane element will dip on its pivot and its stability will be upset, so that the flickering effect of the light passing through and reflected by the vanes to the outside through the top or front of the "electric fire" will be irregular.

45 The top of the casing may be closed by a plate of glass, clear or coloured, such as 13 supporting a number of pieces of broken coloured glass, pieces of coal or the like 14 loosely placed upon it to form an imitation fire surface. The sup-

65 porting plate 13 may be perforated or be in the form of bars to allow the passage of heated air through it.

70 The casing may be provided with air inlets 15 the opening of which is adjustable by means for instance of a hit and miss shutter 16, so that the amount of air flowing through the casing, and consequently the speed of rotation of the flickering device can be adjusted as desired. The air outlets from the casing may be arranged to be similarly adjustable.

75 The two vanes or fan elements 6, 7, may be constructed to rotate in opposite directions preferably about the same axis as shown.

80 The vane elements may be constructed so that the number of reflecting surfaces thereon and their direction of rotation and speed is as desired.

85 The polished or the like light reflecting vanes may be mounted within a casing such as a cylinder made of light reflecting or refracting material.

90 It will be appreciated that other means may be provided, mechanical or otherwise to provide an intermittent flicker by periodically upsetting the stability of vanes adapted to reflect or interrupt light rays from a source of light within the casing, which rotating vanes normally would have a tendency to rotate with constant velocity for instance, by the action of a rising heated air stream upon them.

100 Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

105 1. An imitation fire comprising one or more heating elements mounted on a casing in which is arranged one or more rotating vane elements normally tending to rotate with constant velocity but having means to periodically upset their stability to provide a continuously varying flicker by an irregular obturation or reflection from a source of light, substantially as described.

110 2. An imitation fire as claimed in Claim 1 in which a pair of rotating vane elements are arranged about the same axis to rotate in opposite directions, the vanes having a normal different time period of rotation, substantially as described.

115 3. An imitation fire as claimed in Claims 1 or 2 in which the light reflecting or obturating arrangement is arranged within a glass casing having passages for the inlet and outlet of air, either or both of which can be displace-

able to control the normal time period of rotation of the vanes controlling the obturation or reflection of the light source, substantially as described.

- 5 4. An imitation fire having a light obturation or reflecting device, constructed, substantially as described, with

reference to the accompanying diagrammatic drawings.

Dated this 24th day of December, 1925. 10

W. P. THOMPSON & Co.,  
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Chartered & Registered Patent Agents.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1926.

*[This Drawing is a reproduction of the Original on a reduced scale.]*

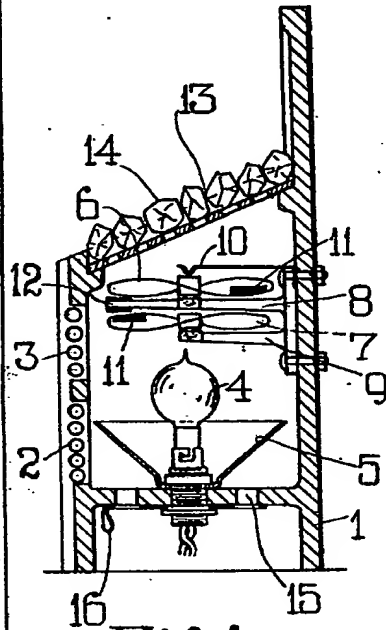


FIG. 1.

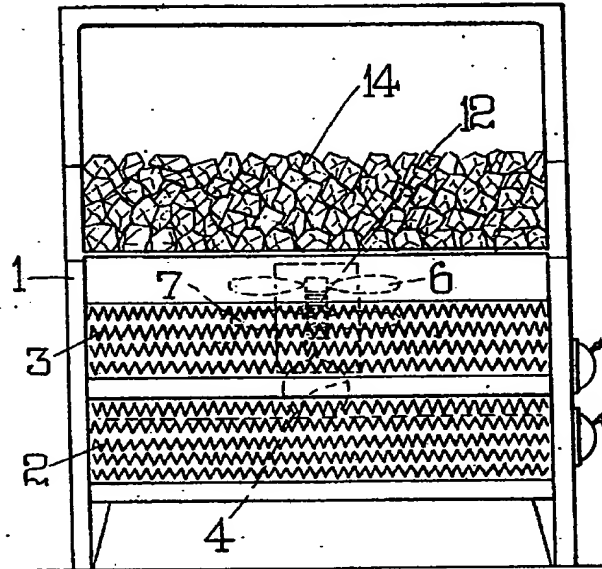


FIG. 2.